WHAT IS CLAIMED IS:

1. A method for manufacturing a cover assembly that can be hermetically attached to a micro-device package base to form a hermetically sealed micro-device package, the cover assembly including a transparent window portion and a frame, the method comprising the following steps:

providing a frame of gas-impervious material having a continuous sidewall defining a frame aperture therethrough, the sidewall including a frame seal-ring area circumscribing the frame aperture;

providing a sheet of a transparent material having a window portion defined thereupon, the window portion having finished top and bottom surfaces;

preparing a sheet seal-ring area on the sheet, the sheet seal-ring area circumscribing the window portion;

positioning the frame against the sheet such that at least a portion of the frame seal-ring area and at least a portion of the sheet seal-ring area contact one another along a continuous junction region that circumscribes the window portion;

pressing the frame against the sheet with sufficient force to produce a predetermined contact pressure between the frame seal-ring area and the sheet seal-ring area along the junction region;

heating the junction region to produce a predetermined temperature along the junction region; and

maintaining the predetermined contact pressure and the predetermined temperature until a diffusion bond is formed between the frame and sheet all along the junction region.

2. A method in accordance with claim 1, wherein the step of pressing the frame is performed before the step of heating the junction.

3. A method in accordance with claim 1, wherein the step of heating the junction is performed before the step of pressing the frame.

4. A method in accordance with claim 1, wherein the steps of pressing the frame and of heating the junction are performed simultaneously.

5. A method in accordance with claim 1, wherein the transparent material of the sheet is a glass.

6. A method in accordance with claim 1, wherein the transparent material of the sheet is a crystalline material.

7. A method in accordance with claim 6, wherein the crystalline material is quartz.

8. A method in accordance with claim 6, wherein the crystalline material is sapphire.

9. A method in accordance with claim 1, wherein the transparent material of the sheet is a polymeric material.

10. A method in accordance with claim 9, wherein the polymeric material is a polycarbonate plastic.

11. A method in accordance with claim 1, wherein the frame is primarily formed of an alloy having a nominal chemical composition of 54% iron (Fe), 29% nickel (Ni) and 17% cobalt (Co).

12. A method in accordance with claim 11, wherein the alloy is ASTM F-15 alloy.

13. A method in accordance with claim 11, wherein the alloy is Kovar alloy.

14. A method in accordance with claim 1, wherein during the step of heating the junction region, the temperature of the window portion of the sheet remains below the glass transition temperature (T_G) of the transparent material.

15. A method in accordance with claim 1, wherein the step of providing a sheet of transparent material further includes applying a surface treatment to the sheet.

16. A method in accordance with claim 1, wherein the finished surfaces of the window portion are flat.

17. A method in accordance with claim 16, wherein the finished surfaces of the window portion are ground and polished.

18. A method in accordance with claim 1, wherein at least one of the finished surfaces of the window portion is contoured.

19. A method in accordance with claim 1, wherein the step of preparing a sheet seal-ring area further comprises cleaning the top and bottom surfaces of the sheet to remove contaminants.

20. A cover assembly for a micro-device package manufactured in accordance with the method of claim 1.

21. A micro-device module including a micro-device encapsulated within a package having a cover assembly manufactured in accordance with the method of claim 1.

22. A cover assembly that can be hermetically sealed to a micro-device package base to form a hermetically sealed micro-device package, the cover assembly including:

a frame of gas-impervious material having a continuous sidewall defining a frame aperture therethrough, the sidewall including a frame seal-ring area circumscribing the frame aperture; and

a sheet of a transparent material having a window portion defined thereupon, the window portion having finished top and bottom surfaces, the sheet being hermetically bonded to the frame by preparing a sheet seal-ring area on the sheet circumscribing the window portion, positioning the frame against the sheet such that at least a portion of the frame seal-ring area and at least a portion of the sheet seal-ring area contact one another along a continuous junction region that circumscribes the window portion, pressing the frame against the sheet with sufficient force to produce a predetermined contact pressure between the frame seal-ring area and the sheet seal-ring area along the junction region, heating the junction region to produce a predetermined temperature along the junction region, and maintaining the predetermined contact pressure and at the predetermined temperature until a diffusion bond forms between the frame seal-ring area and the sheet seal-ring area along the junction region circumscribing the window portion.

23. A cover assembly in accordance with claim 22, wherein the pressing of the frame is performed before the heating of the junction.

24. A cover assembly in accordance with claim 22, wherein the heating of the junction is performed before the pressing of the frame.

25. A cover assembly in accordance with claim 22, wherein the pressing of the frame and the heating of the junction are performed simultaneously.

26. A cover assembly in accordance with claim 22, wherein the transparent material of the sheet is a glass.

27. A cover assembly in accordance with claim 22, wherein during the heating of the junction region, the temperature of the window portion of the sheet remains below the glass transition temperature (T_G) of the transparent material.

28. A cover assembly in accordance with claim 22, wherein the frame is primarily formed of an alloy having a nominal chemical composition of 54% iron (Fe), 29% nickel (Ni) and 17% cobalt (Co).

29. A micro-device module including:

a package base;

a micro-device mounted on the package base; and

a cover assembly hermetically sealed to the package base so as to encapsulate the micro-device in a hermetically sealed cavity formed therebetween, the cover assembly including

a frame of gas-impervious material having a continuous sidewall defining a frame aperture there through, the sidewall including a frame seal-ring area circumscribing the frame aperture;

a sheet of a transparent material having a window portion defined thereupon, the window portion having finished top and bottom surfaces, the sheet being hermetically bonded to the frame by preparing a sheet seal-ring area on the sheet circumscribing the window portion, positioning the frame against the sheet such that at least a portion of the frame seal-ring area and at least a portion of the sheet seal-ring area contact one another along a continuous junction region that circumscribes the window portion, pressing the frame against the sheet with sufficient force to produce a predetermined contact pressure between the frame seal-ring area and the sheet seal-ring area along the junction region, heating the junction region to produce a predetermined temperature along the junction region, and maintaining the predetermined contact pressure and at the predetermined temperature until a diffusion bond forms between the frame seal-ring area and the sheet seal-ring area along the junction region circumscribing the window portion.

30. A micro-device module in accordance with claim 29, wherein the pressing of the frame is performed before the heating of the junction.

31. A micro-device module in accordance with claim 29, wherein the heating of the junction is performed before the pressing of the frame.

32. A micro-device module in accordance with claim 29, wherein the pressing of the frame and the heating of the junction are performed simultaneously.

33. A micro-device module in accordance with claim 29, wherein the transparent material of the sheet is a glass.

34. A micro-device module in accordance with claim 29, wherein during the heating of the junction region, the temperature of the window portion of the sheet remains below the glass transition temperature (T_G) of the transparent material.

35. A micro-device module in accordance with claim 29, wherein the frame is primarily formed of an alloy having a nominal chemical composition of 54% iron (Fe), 29% nickel (Ni) and 17% cobalt (Co).